

**Appl. No. 09/998,513  
Amdt. dated August 19, 2005  
Reply to Office action of May 20, 2005**

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Canceled).
2. (Currently amended) The method of claim 4-30 wherein ~~(d) includes further comprising~~ saving said transformation operator in a separate file.
3. (Original) The method of claim 2 wherein said separate file containing said transformation operator is stored on a storage medium that also contains said new file version.
4. (Original) The method of claim 3 wherein said storage medium comprises a RAID storage subsystem.
5. (Original) The method of claim 1 wherein said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file version.
6. (Original) The method of claim 1 wherein said transformation operator includes words or binary encoded values that have been deleted from the original file version to produce the new file version.
7. (Original) The method of claim 6 wherein said transformation operator also includes words or binary encoded values that are present in the new file version but are not present in the original file version.

Appl. No. 09/998,513  
Amdt. dated August 19, 2005  
Reply to Office action of May 20, 2005

8. (Canceled).

9. (Canceled).

10. (Currently amended) A method of recovering an original version of a file that has been overwritten by a new version of the file, comprising:

- (a) a processor retrieving a transformation operator ~~which was generated when the new version of the file was saved, the transformation operator that~~ is indicative of the differences between the original a current version of the file and the new file in existence at least two versions ago; and
- (b) a processor applying said transformation operator to the ~~new-current~~ file version in order to generate the original file as it existed at least said two versions ago, without generating any interim version of said file.

11. (Original) The method of claim 10 wherein said transformation operator is stored in a separate file.

12. (Original) The method of claim 11 wherein said separate file containing said transformation operator is stored on a storage medium that also contains said new file version.

13. (Original) The method of claim 12 wherein said storage medium comprises a RAID storage subsystem.

14. (Original) The method of claim 10 wherein said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file version.

Appl. No. 09/998,513  
Amdt. dated August 19, 2005  
Reply to Office action of May 20, 2005

15. (Original) The method of claim 10 wherein said transformation operator includes words or binary encoded values that have been deleted from the original file version to produce the new file version.

16. (Original) The method of claim 15 wherein said transformation operator also includes words or binary encoded values that are present in the new file version but are not present in the original file version.

17. (Currently amended) A computer system, comprising:

a processor;

an input device coupled to said processor;

a non-volatile storage device coupled to said processor, said storage device

containing files and containing a transformation operator which is indicative of the differences between a first version of a file and a second or newer subsequent version of the file, the transformation operator having been generated when the newer version of the file was saved, and wherein other versions of said file existed between said first version and said subsequent version; and

~~the processor applies the transformation operator to the second version in order to recover the first version if the first version has been deleted or overwritten by the second version.~~

18. (Original) The computer system of claim 17 wherein said transformation operator is stored in a file that is separate from the file containing the second version.

19. (Original) The computer system of claim 17 wherein said storage device comprises a RAID storage subsystem.

**Appl. No. 09/998,513**  
**Amdt. dated August 19, 2005**  
**Reply to Office action of May 20, 2005**

20. (Original) The computer system of claim 17 wherein said transformation operator includes a difference value, said difference value being the difference between a numerical value in the first file version and a numerical value in the second file version.

21. (Original) The computer system of claim 17 wherein said transformation operator includes words or binary encoded values that have been deleted from the first file version to produce the second file version.

22. (Original) The computer system of claim 21 wherein said transformation operator also includes words or binary encoded values that are present in the first file version but are not present in the second file version.

23. (Canceled).

24. (Canceled).

25. (Previously presented) A computer system, comprising:  
a processor;  
a non-volatile storage device coupled to said processor, said storage device containing files, one of said files being a third version and having two prior sequential versions, the earliest version being a first version and a latter version being a second version, and said storage device contains a first transformation operator which is indicative of the differences between the first version and the third version and said storage device contains a second transformation operator which is indicative of the differences between the second version and the third version, the second transformation operator is generated when the third version is saved; and

**Appl. No. 09/998,513**  
**Amdt. dated August 19, 2005**  
**Reply to Office action of May 20, 2005**

the processor applies the second transformation operator to the third version in order to recover the older second version of the file in case it is has been deleted or overwritten.

26. (Original) The computer system of claim 25 wherein said storage device comprises a RAID storage subsystem.

27. (Original) The computer system of claim 25 wherein said transformation operators include a difference value, said difference value being the difference between a numerical value in one file version and a numerical value in another file version.

28. (Original) The computer system of claim 25 wherein said transformation operators include words or binary encoded values that have been deleted from one file version to produce another file version.

29. (Original) The computer system of claim 28 wherein said transformation operators also include words or binary encoded values that are present in one file version but are not present in another file version.

30. (New) A method, comprising:  
a processor modifying a first file to create a second file;  
a processor modifying the second file to create a third file; and  
a processor creating a transformation operator that identifies changes between the first and third files.

31. (New) The method of claim 30 further comprising the processor creating another transformation operator that identifies changes between the second and third files.

**Appl. No. 09/998,513  
Amdt. dated August 19, 2005  
Reply to Office action of May 20, 2005**

32. (New) The method of claim 31 further comprising the processor applying said another transformation operator on the third file to recover the second file.

33. (New) The method of claim 30 further comprising the processor applying the transformation operator on the third file to recover the first file.

34. (New) The computer system of claim 17 wherein said processor applies the transformation operator to the subsequent version to recover said first version.